

REMARKS

Reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks is respectfully requested. By this Amendment, Fig. 1 is amended, claims 1, 2 and 6 are amended, and claims 4-5 and 8-9 are canceled without prejudice or disclaimer. Accordingly, claims 1-3 and 6-7 are pending in this application. No new matter is presented in this Amendment.

The Patent and Trademark Office (PTO) objects to Fig. 1 based upon informalities. Fig. 1 is amended to obviate the objection. Specifically, Fig. 1 has been designated by the legend, "Prior Art." Accordingly, withdrawal of the objection to the drawings is respectfully requested.

The PTO further objects to claims 1-9 because of informalities. Applicant amends claims 1 and 6 to replace the phrase "the number of particles" with the phrase "a number of particles" to obviate the objection thereto. Accordingly, withdrawal of the objection to claims 1-3 and 6-7 is respectfully requested. The cancellation of claims 4-5 and 8-9 render the objections to these claims moot.

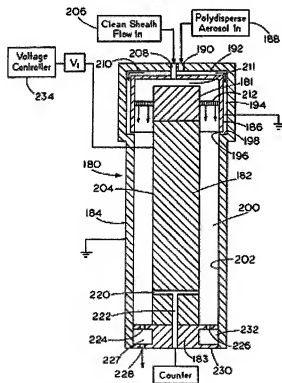
Claims 1, 6, and 7 stand rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,639,671 to Liu. Based upon amendments to claim 1 and the following remarks, this rejection is respectfully traversed. A rejection based on 35 U.S.C. §102 requires every element of the claim to be included in the reference, either directly or inherently.

As disclosed, the present invention sorts particles according to size and count them. Independent claim 1 is amended to more clearly recite the claimed subject matter. Specifically, claim 1, amended to include a portion of claim 2, recites *inter alia*, "a particle separating means having an upper end positioned at an inner lower side of the outer guide duct and including a plurality of particle separating ducts that are spaced apart from a lower end of the electrode." (Emphasis added). Nowhere does Liu disclose, teach or suggest particle separator ducts, as recited in claim 1.

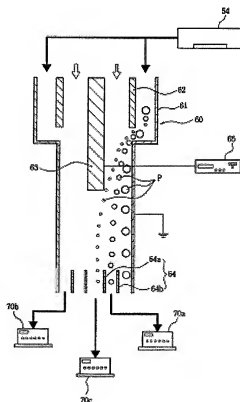
As disclosed in the specification at page 5, lines 20-22, "the electrode 63 is spaced apart by predetermined distance, for example, about 1 to 5cm, from an upper end of the particle separating

ducts 64a and 64b in order for the particles to be separated according to size and flow out.” That is, Applicant discloses wherein the particles are sorted in the size of the particle by the electric field, and then the sorted particles are counted by a plurality of counters (*see* Applicant’s Fig. 3 below). Liu, on the other hand, appears to only disclose wherein particles having a particular size, predetermined by the electric field, are filtered and counted by a single counter (*see* Fig. 6 below). Indeed, for size distribution analysis of an aerosol by a single counter, Liu discloses, at column 10, line 67 to column 11, line 6, wherein the high voltage on the inner electrode 182 must be adjusted through a sequence of voltage values.

FIG. 6



Applicant's FIG. 3



Furthermore, Applicant's apparatus is distinguished from Liu in that unlike the instant invention that sorts the particles according to the size and counts the sorted groups, Liu filters and counts only those particles having required size, wasting the other particles. (See Liu at column 10.

lines 37-58, wherein the particles are separated in three groups; one group comprises the particles having smaller size than certain size predetermined by the electric field; another group comprises the particle having the size predetermined by the electric field; the other group comprises the particle having larger size than certain size predetermined by the electric field. The one group is attached to the electrode, another group is counted, and another group is thrown away.)

Accordingly, because Liu does not disclose, teach or suggest particle separating ducts as recited in claim 1, the rejection of claim 1 under 35 U.S.C. §102(b) is improper. Applicant respectfully submits, therefore, that independent claim 1 is patentable over Liu.

Independent claim 6 is a method claim based upon the apparatus of claim 1 and recites, inter alia, "separating the charged particles, which are not attached to the electrode, according to size; and measuring the number of the charged particles separated according to size." (Emphasis added). As presented above relative to claim 1, nowhere does Liu disclose separating charge particles not attached to the electrode and counting these particles in groups.

Claim 7 depends from independent claim 6 and is likewise patentable over Liu at least for its dependence on claim 1, as well as for additional features it recite. Withdrawal of the rejection over Liu is respectfully requested.

Regarding the obviousness rejection of dependent claims 2-3 under 35 U.S.C. §103(a) over Liu, this rejection is respectfully traversed based upon the foregoing amendments to claim 1 and arguments.


All objections and rejections have been addressed. In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance and favorable reconsideration and prompt allowance of claims 1-3 and 6-7 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN HAM & BERNER, LLP



Benjamin J. Hauptman
Registration No. 29,310

Attachments:

Replacement Sheet

1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-5499 Facsimile
BJH/ERM/ayw
Date: January 3, 2008